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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AGENCY: National Aeronautics and Space Administration (NASA)

Notice of Centennial Challenges Space Robotics Challenge

NOTICE: (16-056)

ACTION: Notice of Centennial Challenges Space Robotics Challenge

SUMMARY: This notice is issued in accordance with 51 U.S.C. 20144(c). The Space Robotics Challenge is open and teams that wish to compete may now register. Centennial Challenges is a program of prize competitions to stimulate innovation in technologies of interest and value to NASA and the nation. The Space Robotics Challenge is a prize competition with a $1,000,000 total prize purse to be divided among teams that develop software to increase the autonomy of dexterous humanoid robots. Teams will use software to control a simulated R5 to resolve problems in a virtual environment. NASA is providing the prize purse. Space Center Houston in partnership with Nine Sigma will manage the challenge.

DATES: Challenge registration opens August 16, 2016 and will remain open until September 16, 2016.

Other important dates:

September 19, 2016	Qualification Software version 1
November 15, 2016	Qualification Deadline
December 1, 2016	Qualification Results Announced
June 13-16, 2017	Virtual Competition

ADDRESSES: The Space Robotics Challenge is a virtual competition. The qualification rounds will take place at participant labs and the final competition will take place at Space Center

Houston/Johnson Space Center.

FOR FURTHER INFORMATION:

To register for or get additional information regarding the Space Robotics Challenge, please visit: www.spaceroboticschallenge.com

For general information on the NASA Centennial Challenges Program please visit: http://www.nasa.gov/challenges. General questions and comments regarding the program should be addressed to Monsi Roman, Centennial Challenges Program, NASA Marshall Space Flight Center Huntsville, AL 35812. Email address: hq-stmd-centennialchallenges@mail.nasa.gov.

SUPPLEMENTARY INFORMATION:

Summary

The following virtual challenge scenario serves as a backdrop for developing coding advancements that enable the autonomy of humanoid robotics:

In the not too distant future, R5 as arrived on Mars along with supplies ahead of a human mission. Overnight a dust storm damaged the habitat and solar array, and caused the primary communication antenna to become misaligned. R5 must now repair an air leak in the habitat, deploy a new solar panel, and align the communication antenna.

Teams will use software to control a simulated R5 in order to resolve the problems caused by the dust storm. Each team will be evaluated according to a scoring metric that considers the number of tasks completed and the time required to complete the tasks.

The competition arena will contain a rover, solar panels, communication dish, and a habitat on a Martian plain. Each component will be within eyesight and walking distance of each other. Practice environments, similar to those used in the final competition, will be provided to teams.

I. Prize Amounts

The total Space Robotics prize purse is $1,000,000 (one million U.S. dollars).

$100,000 Engagement Challenge

$300,000 Qualifying round (The top 20 qualifying teams will receive $15,000 each)

$600,000 Virtual Competition with prizes as follows:

First place: $125,000

Second place: $100,000

Third Place: $50,000

Fourth Place: $25,000

$50,000 bonus prizes awarded to as many as 6 teams

II. Eligibility

To be eligible to win a prize, competitors must;

1) Register and comply with all requirements in the rules and Team Agreement;

2) In the case of a private entity, shall be incorporated in and maintain a primary place of business in the United States, and in the case of an individual, whether participating singly or in a group, shall be a citizen or permanent resident of the United States; and

3) Not be a Federal entity or Federal employee acting within the scope of their employment.

III. Rules

The complete rules for the Space Robotics Challenge can be found at:

www.spaceroboticschallenge.com

Cheryl Parker
NASA Federal Register Liaison Officer
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